ECS Configuration Change Request

1. Originator	2. Log Date:	3. CCR #:	4. Rev:	5. Tel:	6. Rm #:	7. Dept.
Rajesh Dharia	3-16-00	00296	-	(301) 925-0498	3204E	Rel. Dev

8. CCR Title: Upgrade all EDF Sybase server from 11.0.3.3 to 11.5.1

9. Originator Signature/Date	10. Class	11. Type:	12. Need Date:
Rajesh Dharia 3/16/00	IN	CCR	3/24/00

13. Office Manager Signature/Date	14. Category of Change:	15. Priority: (If "Emergency" fill in Block 28).
3.16.00	EDF (RTSC)	Routine

16. Documentation/Drawings Impacted:	17. Schedule Impact:	18. CI(s) Affected:
N/A	N/A	

19. Release Affected by this Change:	20. Date due to Customer:	21. Estimated Cost:
5A, 5B	~~2/14/00~~ ?	None - Under 100K

22. Source Reference: ☐NCR (attach) ☐Action Item ☐Tech Ref. ☐GSFC ☒Other:
ICOTS lead Royal White's recommendation

23. Problem: (use additional Sheets if necessary)
All EDF servers running sybase needs to be upgraded from 11.0.3.3 to 11.5.1. Reason for upgrade is that 11.5.1 integration testing needs to be completed prior to 5B transition.

24. Proposed Solution: (use additional sheets if necessary)
Obtain CD medias from COTS Software librarian (ASE 11.5.1) for each of the platforms
Use the attached upgrade installation instruction for Sybase server upgrade.
Note: Islam Beig has the entire EDF Sybase server list.

25. Alternate Solution: (use additional sheets if necessary)
N/A

26. Consequences if Change(s) are not approved: (use additional sheets if necessary)
5B transition Schedule Impact

27. Justification for Emergency (If Block 15 is "Emergency"):

28. Site(s) Affected: ☒EDF ☐PVC ☐VATC ☐EDC ☐GSFC ☐LaRC ☐NSIDC ☐SMC ☐AK ☐JPL ☐EOC ☐iDG Test Cell ☐Other

29. Board Comments:	30. Work Assigned To:	31. CCR Closed Date:
	LTSC	

32. EDF/SCDV CCB Chair (Sign/Date): 3/20/2000	**Disposition:** (Approved) App/Com. Disapproved Withdraw Fwd/ESDIS ERB Fwd/ECS
33. M&O CCB Chair (Sign/Date):	**Disposition:** Approved App/Com. Disapproved Withdraw Fwd/ESDIS ERB Fwd/ECS
34. ECS CCB Chair (Sign/Date):	**Disposition:** Approved App/Com. Disapproved Withdraw Fwd/ESDIS ERB Fwd/ESDIS

ORIGINAL

00-0296

1. RELB - milo ✓ RW
2. RELB - kidnaped ✓ RW
3. RELB - relbhp ✓ RW
4. RELB - minotaur ✓ RW
5. RELB - sparrow ✓ RW
6. RELB - relbhpms ✓ RW
7. RELB - s0moh02 ✓ RW
8. RELB - pdps2 ✓ RW
9. ~~VATC - t1msh01~~
10. RELB - comanche ✓ RW
11. RELB - kidnaped ✓ RW
12. RELB - hopper ✓ RW
13. ~~VATC - t1acg01~~
14. RELB - cherokee ✓ RW
15. RELB - delaware ✓ RW
16. ~~VATC - t1ins01~~
17. ~~VATC - t1icg01~~
18. RELB - otis ✓ RW
19. ~~VATC - t1ims02~~
20. RELB - junior ✓ RW
21. ~~PVC - p0mss21~~
22. ~~RELB - p0acg05~~
23. RELB - drpepper ✓ RW
24. ~~PVC - p0acg05~~
25. ~~VATC - t1pls01~~
26. ~~PVC - p0ins02~~
27. ~~PVC - p0pls02~~
28. ~~VATC - t1mss06~~
29. RELB-STR2 - f2mss01 ✓ RW
30. ~~VATC - t1msh01~~
31. ~~VATC - t1sps02~~
32. RELB-STR2 - f2ins01 ✓ RW
33. ~~PVC - p0sps06~~
34. RELB-STR2 - f2pls01 ✓ RW
35. ~~VATC - t1mss07~~
36. RELB-STR2 - f2spg02 ✓ RW
37. ~~RELB - p0msh08~~
38. ~~VATC - t1icg03~~
39. RELB - kenya ✓ RW

Appendix B. Upgrade Instructions

B.1 SQL Server 11.0.3.3 to 11.5.1 Upgrade Instructions

B.1.1 Preliminary Checklist

1. Need Sybase account password.
2. Make sure that there is enough disk space for the new files. (200 MB)
3. Be sure the DISPLAY, SYBASE & DSQUERY variables are set correctly and can be found by sybsetup.
4. Your path should include $SYBASE, $SYBASE/bin & $SYBASE/install
5. Verify the name and location of the RUNSERVER file. (the old $SYBASE/install directory and is still named RUN_*server_name* where *server_name* is the name of the current SQL Server)
6. Make sure the SQL Server is running and all users are logged off. SQL Server should be up (use "showserver" command at the UNIX prompt -- "dataserver" entry should be displayed).
7. Make sure that master (30 MB minimum) and sybsystemprocs (60 MB minimum) databases have enough space. Space requirement are:

```
Database              Recommended
-------------         ----------
master               30 (raw partition)
sybsystemprocs       60 (raw or OS file system)
```

8. Check to see if any databases are replicated by running *dbcc gettrunc* in each database. If transtate = 1, then see the B.3 SQL Server Upgrade with Replicated Databases section before proceeding.
9. Checkpoint all databases.
10. Perform database integrity checks. (Run *dbcc checkalloc*, *dbcc checkdb*, and *dbcc checkcatalog*)
11. Make sure your "sa password" does not contain dollar sign ($).
12. Make a good backup of your $SYBASE directory and databases.
13. Make sure your have a good copy of the latest database backup including "master" database and /usr/ecs/OPS/COTS/sybase directory.
14. Disable disk mirroring. (Run *select name, mirrorname from sysdevices*. Use *disk unmirror*.)
15. Shut down Monitor Server, SQS server, Remedy, and Autosys.
16. Check for reserve word confilicts. Use sqlupgrade, if any errors are encountered using Transact-SQL keywords reserved by Sybase as database names, it does not continue until databases are renamed that were using the reserved words. Conficts with object names do no prevent the upgrade process from completing.
17. Free up log space for the upgrade
18. Note the values of data and procedure cache for verifcation after upgrade.

B.1.2 Pre-Upgrade Procedures

1. Make sure auditing is turned off, if auditing is done on the server:

```
Steps:

isql -Usa -S<sybase servername>
Password:
1> sp_auditoption
2> go

If you get "Msg 2812" and you typed the above statement correctly,
      then there is no auditing on this sybase server.  Proceed
```

```
      to Step (2).
If "enable auditing" is "on" then do the following:

1> sp_auditoption "enable auditing", off
2> go
```

2. Make sure "trunc. log on chkpt." option is turned OFF on all databases.

```
Steps:

isql -Usa -S<sybase servername>
Password:
1> sp_helpdb
2> go

The above command give you a list of all databases information
including the database options.

e.g.

 name                    db_size       owner                    dbid
        created
        status
 ----------------------- ------------ ------------------------ ------
       --------------
       ------------------------------------------------------------------
--

 tempdb                           2.0 MB sa                          2
        Sep 15, 1998
        select into/bulkcopy
 sample                          45.0 MB mss_role                    5
        Sep 14, 1998
        select into/bulkcopy, trunc log on chkpt, allow nulls by
default

(return status = 0)
1>

Make a note of all databases that have "trunc log on chkpt" in the
status column.  In the above example, database "sample" has
"trunc log on chkpt" option set.  To remove the option do the
following:

1> sp_dboption  <database name>, "trunc log on chkpt", false
2> go
Database option 'trunc log on chkpt' turned OFF for database 'sample'.
Run the CHECKPOINT command in the database that was changed.
(return status = 0)

1> use <database name>
2> go
1> checkpoint
2> go
```

3. Alter Sybsystemprocs, use sp_helpdb to determine the size of the sybsystemprocs database

```
1> sp_helpdb sybsystemprocs
2> go

1> use master
2> go

1> alter database sybsystemprocs  (the difference from above steop)
```

Verify change has been made

```
1>  sp_helpdb sybsystemprocs
2>  go
```

3. Stop the SQL and Backup Servers

```
Steps:

isql -Usa -S<sybase servername>
Password:
1> shutdown SYB_BACKUP
2> go
Backup Server: 3.48.1.1: The Backup Server will go down immediately.
Terminating sessions.

1> shutdown
2> go
Server SHUTDOWN by request.

The SQL Server is terminating this process.
DB-LIBRARY error:
        Unexpected EOF from SQL Server.
```

4. If upgrading from CDROM, insert the CDROM into the CDROM drive. CD mounts automatically on Solaris & SGI. You have to mount the CD on an HP.

   From here on the $CDROM path should be replaced by the actual CD-ROM path

B.1.3 Unloading Software from CD

To unload from CD:

1. Verify you are logged in as "sybase" user and that your environment is setup as described in preliminary checklist

2. Place the Adaptive Server product CD in the CD-ROM drive.

   The Solaris operating system automatically mounts the CD.

3. At the UNIX command prompt, execute the sybsetup utility:

$CDROM path/sybsetup

The sybsetup screen is displayed.

4. Choose Unload Sybase Products from the sybsetup menu.

The Installation Destination screen is displayed:

5. Verify that the location of the installation directory displayed by sybsetup is where you want to install Sybase software.

6.Click continue (the check mark button).

The Installation Source Device screen is displayed. A warning message is displayed Indicating you're writing into a directory that has sybase installed, click ok

7. Provide the device media and device location.

a. Select CD-ROM (if not already selected by default).

b. Enter $CDROM path/sybimage as the name of the CD-ROM image.

c. Select Local (if not already selected by default)

8. Click continue (the check mark button).

The Product Selection screen is displayed.

9. At the top of the Product Selection screen, verify the install directory, install device, and install host displayed are correct.

10. Click on the products you want to install.

11. Click continue and the dialog box Install Products is displayed. Select Adpative Server Enterprise 11.5.1

12. Click OK to unload the products.

sybsetup displays the Installation Status screen which shows the progress of the unload process.

13. At the end of the unloading process, reply "yes" to have sybsetup copied into the $SYBASE/bin directory.

Do not manually copy (using UNIX cp command) sybsetup from the CD to your system. If you do, sybsetup will not work.

A screen entitled Success is displayed after sybsetup is successfully unloaded.

14. When unloading is complete and after exiting sybsetup, remove the CD from the drive:

/usr/bin/eject cd

16. Re-start the SQL Server

```
If you have a Sybase Startup/Shutdown script you could use that
OR
- cd  $SYBASE/install
- ./startserver -f ./RUN_<sybase_srvr_name>

You will see at the end of the messages something like below (It's
normal to see WARNING at the end, when you are upgrading):
.
.
.
00:98/09/15 14:54:44.76 server  Database 'test' is now online.
00:98/09/15 14:54:44.80 server  Recovery complete.
00:98/09/15 14:54:44.82 server  SQL Server's default sort order is:
00:98/09/15 14:54:44.84 server          'bin_iso_1' (ID = 50)
00:98/09/15 14:54:44.86 server  on top of default character set:
00:98/09/15 14:54:44.88 server          'iso_1' (ID = 1).
00:98/09/15 14:54:44.90 server  WARNING: ***************************
00:98/09/15 14:54:44.92 server  SQL Server booted against master device
for different release.
This message is to be expected during an upgrade.
SQL Server version 11.5.10  Master device version 11.0.3
00:98/09/15 14:54:44.94 server  WARNING: ***************************
```

B.1.4 Upgrading Adaptive Server

To upgrade to the new release of Adaptive Server:

1. Make sure your current server is running.

2. Verify that your SYBASE environment variable points to the location of the new Adaptive Server software files you just unloaded.

3. To upgrade the SQL Server do the following:

   o At the UNIX command prompt, enter:

%isql –Usa –P –e –n –i$SYBASE/scripts/installupgrade –o installupgrade.out
The –e option echos input when reading in file, the –n option remove line numbers and > prompt

6. Print the installupgrade.out file and review for error messages. If the upgrade was successful the Upgrade installation is complete will be printed.

Status Output screen:

16. There is no formal upgrade for backup server and monitor server, create these using srvbuild.

B.1.5 Post-Upgrade

1. Select @@version to see if the upgrade worked.

```
$SYBASE/bin/isql -Usa -S<sybase servername>
Password:
1> select @@version
2> go


You should see something similar to this:
-----------------------------------------------------------------------------
-
SQL Server/11.0.3.3/P/Sun_svr4/OS 5.4/SWR 7934 Rollup/OPT/Sun May 31
23:28:44 PDT 1998

(1 row affected)
1> Exit
```

2. If auditing was turned off in step (1), then turn it back "on".

```
   isql -Usa -S<sybase servername>
   Password:
   1> sp_auditoption "enable auditing", on
1> go
```

3. If "trunc log on chkpt" was turned off in step(2), then turn it back "on".

```
   isql -Usa -S<sybase servername>
   Password:
   1> sp_dboption  <database name>, "trunc log on chkpt", true
   2> go
   Database option 'trunc log on chkpt' turned ON for database 'sample'.
   Run the CHECKPOINT command in the database that was changed.
   (return status = 0)

   1> use <database name>
   2> go
   1> checkpoint
   2> go
```

4. Re-mirror databases if they were unmirrored.
5. Re-enable replication. See the B.3.2 Post-Upgrade section.
6. Restart Monitor Server, SQS server, Remedy, and Autosys.
7. Backup all databases.

B.2 SQL Server Upgrade with Replicated Databases (ECS Specific)

B.2.1 Preliminary Checklist

If you are running Replication Server, complete the following tasks before upgrading to 11.0.3:

1. Check for replicated text or image columns in each database. (Identify by running *select count(*) from syscolumns where (status & 0x3 !=0) and (type=35 or type=34).* If this does not return 0, then step 5 is necessary.)
2. Run *rs_helproute* in each RSSD being upgraded. The status of all routes must be "Active."
3. Shut down applications using the databases being upgraded.
4. Suspend DSI connections to non-RSSD databases being upgraded. (Use the *admin who* command in Replication Server to identify existing DSI connections. Run *suspend connection to dataserver.database* to suspend the connections.)
5. This is only necessary if step 1 did not return 0. Drain transaction logs for primary databases.
6. Drain the RSSD transaction log.
7. Shut down Replication Servers and LTMs for the database being upgraded.
8. Disable the LTM truncation point. In each primary RSSD, execute the *command dbcc settrunc('ltm', 'ignore').*

B.2.2 Post-Upgrade

```
1. To reenable replication for each primary RSSD being upgraded, follow
     these steps:

       a. Connect to the primary RSSD, and execute the following command to
          clear the locator for the database:

          1> use rssd
          2> go
          1> rs_zeroltm dataserver, RSSD
          2> go

       b. Connect to the primary database and enable the truncation point
          for the database:

          1> use database
          2> go
          1> dbcc settrunc ('ltm','valid')
          2> go

     To restart replication:

       a. Restart the Replication Servers and LTMs.

       b. Execute the following Replication Server command for each
          suspended database to resume the Data Server Interface (DSI)
          connections that were suspended before the upgrade:

          1> resume connection to dataserver.database
          2> go
```

Engineering Change Order (ECO)

1. CCR # 00-0296	2. CCR Title: Upgrade all EDF Sybase server from 11.0.3.3 to 11.5.1
3. Approval Date:	4. Approval Authority (TTB, CCB): CCB

5. ECO#	6. TASK DESCRIPTION	7. RESPONSIBILITY	8. NEED DATE/ DEPENDANT ACTIVITY
-001	Obtain CD medias for Sybase adptive server 11.5.1 for each platform (SUN, HP, SGI) from COTS librarian	RTSC	3/24/00
002	Upgrade all EDF servers (SUN, HP, SGI) from 11.0.3.3 to 11.5.1 using upgrade install instruction attachment provided with this CCR	RTSC	3/24/00
003	Notify Caroll Lindsey upon completion of the Sybase Adaptive Server upgrade	RTSC	3/24/00
004			
005			

CM19JA00